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# The Canadian Mineral Industry Monthly Report

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## February 1979



Energy, Mines and  
Resources Canada

Énergie, Mines et  
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Minerals

Minéraux

## PREFACE

This report is prepared in the Mineral Policy Sector of the Department of Energy, Mines and Resources. It is prepared from the best information available to us from many sources, but it is only intended to be a general review of the more important current developments in the Canadian mineral industry and of developments elsewhere that affect, or may affect, the Canadian industry. It should not be considered an authority for exact quotation or an expression of official Government of Canada views.

Ce rapport a été rédigé par le Secteur de la Politique Minérale du Ministère de l'Énergie, des Mines et des Ressources. Bien que nous ayons eu recours à de nombreuses sources pour vous fournir les meilleurs renseignements possibles, cet exposé n'a pour objet que de passer en revue les développements actuels les plus importants de l'industrie minière canadienne, de même que les progrès accomplis ailleurs qui peuvent intéresser l'industrie canadienne. On ne doit pas considérer cet exposé comme une source de renseignements précis ou comme l'expression des vues du Gouvernement canadien.

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## THE CANADIAN MINERAL INDUSTRY FOR FEBRUARY

The following constitutes a brief summary of the Canadian mineral industry based upon information that became available in February.

### HIGHLIGHTS

1. Canada's unadjusted index of Real Domestic Product was 133.7 in December 1978, a decrease of 2.5 per cent from November 1978.
2. The December index for Mines, Quarries and Oil Wells was 110.0, an increase of 0.3 per cent from the previous month.
3. The monthly average gold price for February 1979 of the afternoon fixing prices on the London Gold Market was \$245.67 (U.S.) (\$293.67 Cdn.) an ounce, an all time high, compared with \$227.27 (U.S.) (\$270.41 Cdn.) an ounce for January.
4. A protocol agreement was signed between United States Steel Corporation and China for the development of a large iron ore mine, concentrator and pellet plant at Chitashan in northeastern China near the steel production center of Anshan.
5. A 30 000 tonne per year lead smelter is being considered for South Africa which would ensure that country's self-sufficiency in metal.
6. The preliminary production figures for Canada in 1978 indicate that refined lead production reached a new high of 194 054 tonnes, up 3.5 per cent from 1977.
7. Negotiations between Inco Metals Company and local 6500 (Sudbury) of the United Steelworkers of America broke off again February 9 when the union bargaining committee rejected the company's latest settlement offer for a new agreement.
8. In Thompson, Manitoba, members of the United Steelworkers of America have voted to accept a new 30-month contract with Inco Limited.
9. The United States government has decided to expand the list of commodities in its Generalized System of Preference (GSP) to include among others tungsten ores, concentrates and ferrotungsten.
10. Uranium Canada, Limited (UCAN) has announced the signing of an agreement with Ontario Hydro granting Hydro the right to borrow in 1979 up to 800 tonnes uranium from the federal government's uranium stockpile.
11. Maintenance and Production workers at Denison Mines Limited and Rio Algom Limited have accepted a 35-month contract that will increase their base pay from \$6.12 to \$9.62 per hour by September 1981.

### ECONOMIC TRENDS

Table 1 shows Canada's unadjusted indexes of Real Domestic Product (RDP). The overall index in December 1978 was 133.7, a decrease of 2.5 per cent from November 1978.

The December RDP index for mines, quarries and oil wells was 110.0, up 0.3 per cent from 109.7 in November. The metal mines index increased over the month by 4.0 per cent to 86.1 while the nonmetal mines index decreased 3.6 per cent to 128.9. Mineral fuels moved from 127.4 in November to 129.2 in December, an increase of 1.4 per cent. Primary metal industries showed a decrease of 9.6 per cent over the month with iron and steel mills down 12.5 per cent and iron foundries down 13.6 per cent.

Table 2 compares volume of production in nineteen major Canadian minerals. Substantial changes (November 1978 to December 1978) were recorded in copper (up 24.9 per cent), iron ore (down 17.6 per cent), lead (down 19.1 per cent), zinc (down 18.5 per cent), gypsum (down 23.9 per cent), cement (down 38.2 per cent) and clay products (down 28.6 per cent).

Table 3 shows total freight in 1977 and 1978 transported by Canadian railroads with a percentage breakdown by mineral commodities.

TABLE 1

Canada, Indexes of Real Domestic Product, by Industries Unadjusted (1971=100)

Industry or Industry Group	1977			1978			Percentage Changes				
	Nov	Dec	Average 12 Months	Nov	Dec	Average 12 Months	Nov 1978		Dec 1978		12
							Nov 1977	Dec 1977	Nov 1978	Dec 1978	Months 1978 1977
Real Domestic Product	132.3	127.6	129.0	137.1	133.7	133.3	3.6	4.8	-2.5	3.4	
Primary Industries											
Agriculture	54.5	40.3	101.3	53.6	44.0	109.2	-1.7	9.2	-17.9	7.8	
Forestry	133.7	127.2	120.1	172.8	142.9	124.3	29.2	12.3	-17.3	3.4	
Fishing and Trapping	85.4	61.2	88.7	78.4	68.0	104.8	-8.2	11.1	-13.3	18.1	
Mines, Quarries and Oil Wells	119.0	115.4	114.3	109.7	110.0	104.4	-7.8	-4.7	0.3	-8.6	
Metal Mines	110.0	103.5	109.4	82.8	86.1	87.0	-24.7	-16.8	4.0	-20.4	
Placer and Gold Quartz Mines	75.1	71.9	73.6	67.3	79.9	71.6	-10.4	11.1	18.7	-2.7	
Iron Mines	125.9	142.2	131.2	136.1	141.2	94.0	8.1	-0.7	3.7	-28.4	
Other Metal Mines	107.7	95.4	105.7	70.4	72.8	86.1	-34.6	-23.7	3.4	-18.6	
Mineral Fuels	123.2	129.3	113.9	127.4	129.2	113.5	3.4	-0.1	1.4	-0.4	
Coal Mines	216.4	188.0	209.4	257.9	248.8	230.3	19.2	32.3	-3.5	10.0	
Crude Petroleum and Natural Gas	115.6	124.5	106.1	116.7	119.4	103.9	1.0	-4.1	2.3	-2.0	
Nonmetal Mines	135.0	116.7	129.9	133.7	128.9	122.7	-1.0	10.5	-3.6	-5.5	
Asbestos Mines	108.4	78.8	107.8	88.1	84.5	89.9	-18.7	7.2	-4.1	-16.5	
Secondary Industries											
Manufacturing	132.1	117.9	124.8	144.9	132.3	134.1	9.7	12.2	-8.7	7.4	
Nondurable Manufacturing	128.7	117.0	122.6	142.4	131.5	133.4	10.6	12.4	-7.7	8.8	
Petroleum and Coal Products Industries	139.3	144.0	133.7	148.4	152.9	136.0	6.5	6.2	3.0	1.7	
Durable Manufacturing	135.5	118.8	126.9	147.5	133.0	134.8	8.9	12.0	-9.8	6.2	
Primary Metal Industries	124.6	105.5	116.6	131.7	119.0	124.4	5.7	12.8	-9.6	6.6	
Iron and Steel Mills	130.8	104.9	122.5	151.9	132.9	138.3	16.1	26.7	-12.5	12.8	
Steel Pipe and Tube Mills	111.9	101.4	114.1	134.4	129.9	133.8	20.1	28.1	-3.3	17.3	
Iron Foundries	147.4	105.3	122.3	130.5	112.7	114.2	-11.5	7.0	-13.6	-6.6	
Smelting and Refining	112.0	106.1	105.9	93.7	93.2	100.6	-16.3	-12.2	-0.5	-5.0	
Nonmetallic Mineral Products Industries	150.6	111.8	133.4	157.0	127.2	140.1	4.2	13.8	-19.0	5.0	
Cement Manufacturers	137.8	85.7	124.0	137.9	99.5	128.8	0.1	16.1	-27.8	3.9	
Ready-mix Concrete Manufacturers	135.6	68.3	127.7	141.2	84.4	125.1	4.1	23.6	-40.2	-2.1	
Construction Industry	124.0	101.3	119.8	115.1	94.1	112.2	-7.2	-7.1	-18.2	-6.3	
Transportation, Storage, Communication	138.3	133.2	136.7	144.9	141.9	141.7	4.8	6.5	-2.1	3.7	
Electric Power, Gas and Water Utilities	160.5	183.9	148.6	165.5	193.5	157.1	3.1	5.2	16.9	5.7	
Trade	144.6	157.3	134.9	147.6	162.8	139.6	2.1	3.5	10.3	3.5	
Finance, Insurance, Real Estate	145.4	146.2	142.6	152.4	152.4	148.7	4.8	4.2	0.0	4.3	
Community, Business and Personal Service	133.7	129.6	129.4	137.0	133.9	133.2	2.5	3.3	-2.3	3.0	
Public Administration and Defence	122.5	121.6	124.4	123.1	122.0	125.5	0.5	0.3	-0.9	0.9	



TABLE 2

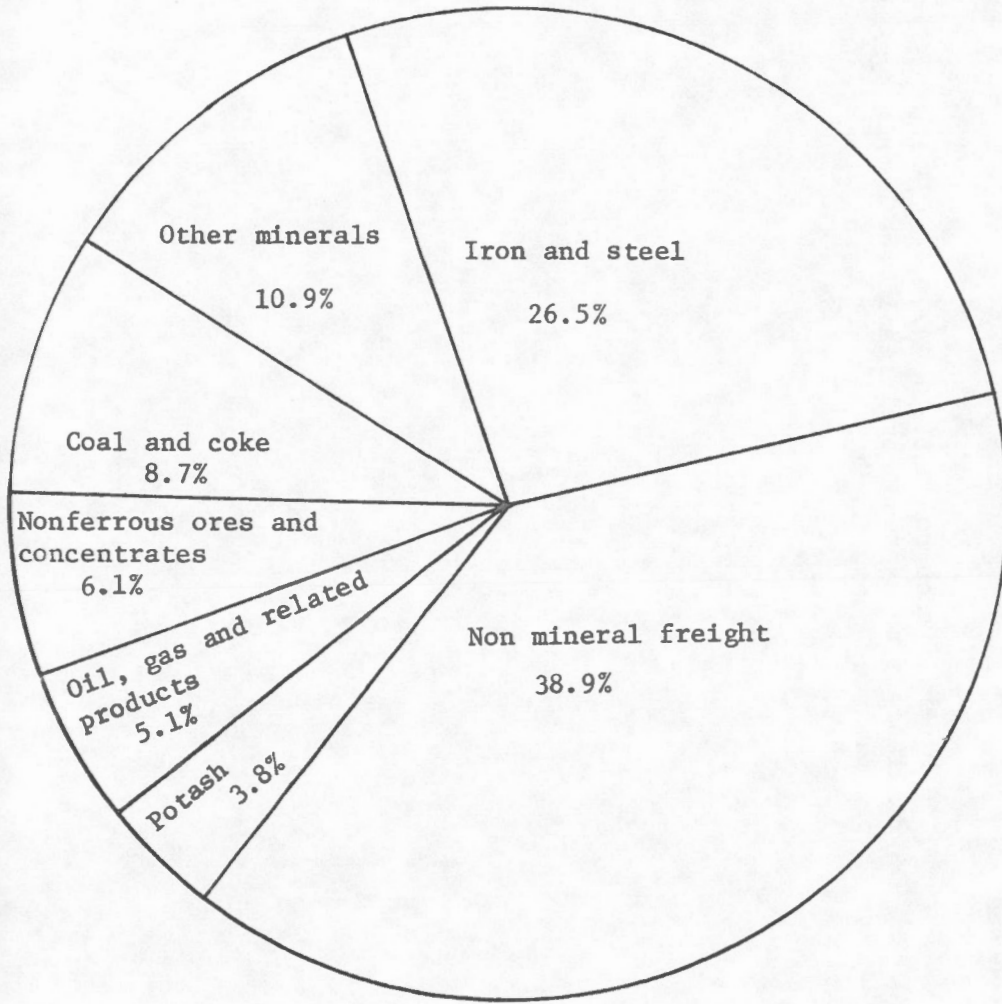
Canada, Production of Leading Minerals  
( '000 tonnes except where noted)

	1977			1978			Percentage Changes			
	November	December	Total 12 months	November	December	Total 12 months	December 78	December 78	1st 12 months	
							December 77	November 78	1978 1977	
<b>Metals</b>										
Copper		65.5	54.1 <sup>r</sup>	759.4 <sup>r</sup>	36.9	46.1	644.9	-14.8	+24.9	-15.1
Gold	kg	4 606.9	4 616.6 <sup>r</sup>	53 921.3 <sup>r</sup>	4 249.8	4 505.5	51 847.7	- 2.4	+ 6.0	- 3.9
Iron ore		5 866.0	4 337.2 <sup>r</sup>	53 621.1 <sup>r</sup>	5 966.5	4 916.7	42 941.4	+13.4	-17.6	-19.9
Lead		22.7	31.8	281.0	35.1 <sup>r</sup>	28.4	317.3	-10.7	-19.1	+12.9
Molybdenum	t	1 796.0	1 150.0 <sup>r</sup>	16 567.6 <sup>r</sup>	898.5	999.3	13 902.4	-13.1	+11.2	-16.1
Nickel		18.6	18.2 <sup>r</sup>	232.5 <sup>r</sup>	5.2	5.6	127.5	-69.2	+ 7.7	-45.2
Silver	t	110.7 <sup>r</sup>	107.6 <sup>r</sup>	1 313.7 <sup>r</sup>	115.1	106.2	1 249.3	- 1.3	- 7.7	- 4.9
Uranium (1)	t	455.1	373.5 <sup>r</sup>	5 787.0 <sup>r</sup>	1 001.1	1 028.4	7 881.7	+175.3	+ 2.3	+36.2
Zinc		81.7	83.1 <sup>r</sup>	1 070.5 <sup>r</sup>	101.0 <sup>r</sup>	88.0	1 019.9	+ 5.9	-18.5	- 4.7
<b>Nonmetals</b>										
Asbestos		127.8	120.4 <sup>r</sup>	1 517.4 <sup>r</sup>	120.2	129.5	1 422.0	+ 7.6	+ 7.7	- 6.3
Gypsum		564.4	645.9 <sup>r</sup>	7 233.9 <sup>r</sup>	800.0 <sup>r</sup>	608.5	8 081.7	- 5.8	-23.9	+11.7
Potash K <sub>2</sub> O		454.3	371.7 <sup>r</sup>	5 764.2 <sup>r</sup>	545.7	544.0	6 339.7	+46.4	- 0.3	+10.0
Salt		600.0	677.9 <sup>r</sup>	6 039.5 <sup>r</sup>	659.0	750.5	6 452.3	+10.7	+13.9	+ 6.8
Cement		876.0	465.3	10 047.6 <sup>r</sup>	921.9	569.6	10 558.3	+22.4	-38.2	+ 5.1
Clay products	\$000	8,798.1	5,003.2	95,947.3	9,967.8	7,120.3	103,274.4	+42.3	-28.6	+ 7.6
Lime		158.3	149.1	1 835.0	179.9	174.2	2 034.2	+16.8	- 3.2	+10.9
<b>Fuels</b>										
Coal		2 395.6	2 533.0	28 520.3	2 788.2 <sup>r</sup>	2 883.8	30 476.8	+13.9	+ 3.4	+ 6.9
Natural gas	000 m <sup>3</sup>	9 006 230.8	8 946 878.7 <sup>r</sup>	92 031 631.4 <sup>r</sup>	8 170 713.8 <sup>r</sup>	8 909 387.1	88 356 812.2	- 0.4	+ 9.0	- 4.0
Crude oil and equivalent	000 m <sup>3</sup>	7 547.6	8 448.6 <sup>r</sup>	83 392.8 <sup>r</sup>	7 643.3 <sup>r</sup>	7 785.0	81 971.9	- 7.9	+ 1.9	- 1.7

(1) Tonnes uranium (1 tonne U = 1.299 9 short tons U<sub>3</sub>O<sub>8</sub>).  
r Revised.

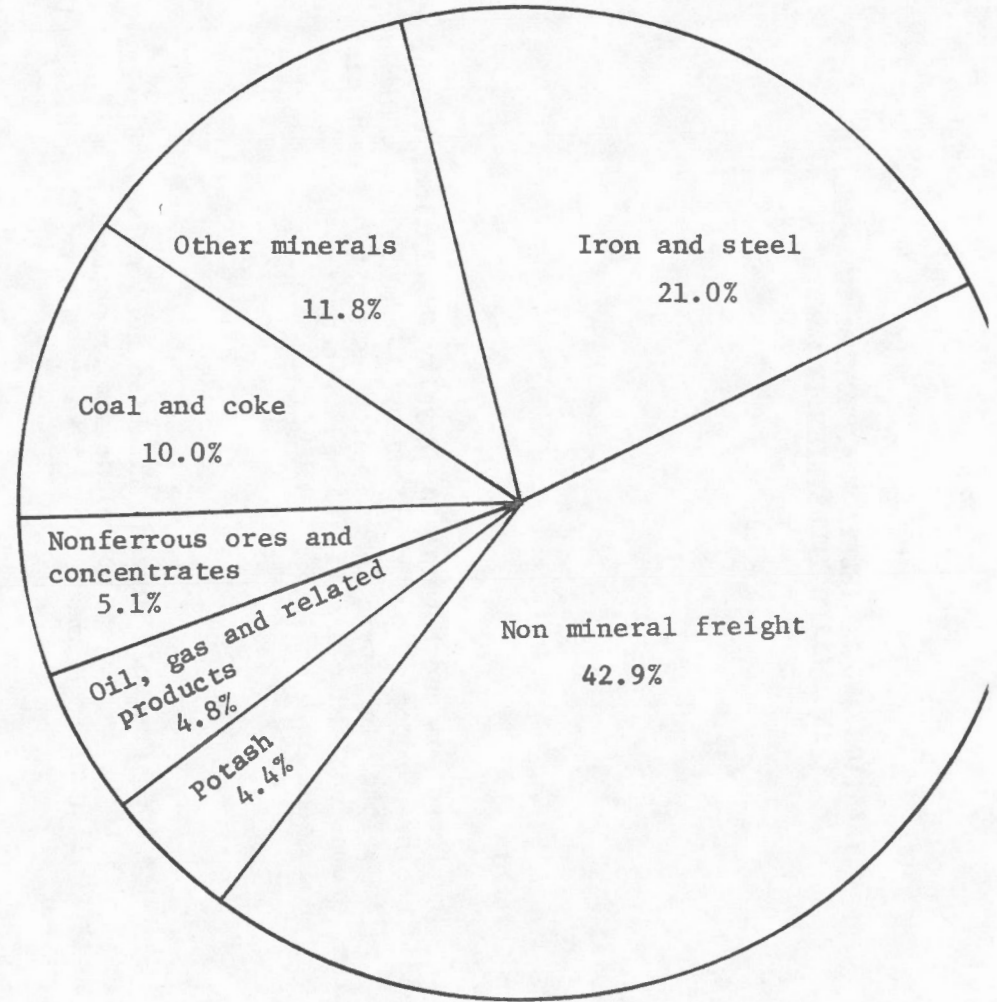
TABLE 3

Railway Transportation of Minerals in Canada



1977

Total revenue freight = 226.7 million tonnes



1978

Total revenue freight = 218.8 million tonnes

**TAXATION AND LEGISLATION AFFECTING THE MINERAL  
AND ALLIED INDUSTRIES IN CANADA**

**CANADA**

**Provincial**

**British Columbia**

The **Petroleum and Natural Gas Royalty Regulation, B.C.R. 599/77** as amended has been repealed and replaced by B.C.R. 549/78. The new regulation is written in metric terms, which necessitated rewriting the royalties, exemptions and classifications. Production is now expressed in cubic metres instead of barrels.

**Alberta**

Under the **Freehold Mineral Taxation Act, AR 460/78** prescribes the rate of tax to be levied on petroleum and/or natural gas rights at 16 mills on the dollar of assessment for the year 1978, unchanged from the previous year.

**Saskatchewan**

Under the **Mineral Resources Act, SR 31/79** amends the Petroleum and Natural Gas Regulations to express royalties in the metric system; e.g. "two cents per thousand cubic feet" becomes "seventy-one cents per thousand cubic metres".

## REGIONAL PROFILES

## ALBERTA

For eight consecutive years, beginning in 1971, Alberta has been the Canadian leader in value of mineral production. This has been due to rapidly rising energy costs, particularly the prices paid for petroleum and natural gas. With its dominant position as the storehouse of vast potential reserves of these commodities, as well as coal, Alberta will probably continue to lead Canada in mineral production and mineral export values for many more years. Alberta is also Canada's leading producer of sulphur, giving her a third ranking position in provincial production of nonmetallic minerals. Alberta is second to British Columbia in value of coal production, accounting for about one-third of the Canadian total. The province is third in Canada in production of cement.

## Principal Minerals Produced

Commodity	Value of 1978 Production* \$000's	Percentage Increase '77-'78	Percentage of Total Canadian Production
Peat moss	2,700	16.4	9.0
Quartz	1,755	20.1	8.9
Salt	9,003	25.3	8.7
Sodium sulphate	2,378	30.2	12.2
Sulphur	98,318	23.4	98.2
Coal	240,600	14.4	32.8
Natural gas	4,486,369	10.8	92.7
Crude petroleum	4,784,520	16.6	84.5
Clay products	10,532	-	9.8
Cement	60,308	7.8	12.5
Lime	5,099	7.9	6.9
Sand and gravel	46,900	2.7	12.5
Stone	900	23.6	0.3
<u>TOTALS</u>			
Nonmetallics	114,154	23.5	7.4
Fuels	9,511,489	13.7	84.7
Structural materials	123,739	5.2	9.1
ALL MINERALS	9,749,382	13.7	49.7

\* Preliminary figures.

## Socio-Economic Indicators, 1978

	Factor	Number	Percentage Change Over Previous Year	Percentage of Canadian Total
Population (July 1)	1000	1,955	2.9	8.3
Labour force (Oct)	1000	959	6.3	8.7
Employment (Oct)	1000	920	6.0	9.0
Unemployment (Oct)	1000	39	14.7	4.9
Employed in mining (July)*	1000	18.4	41.5	21.0
Average weekly wages in mining and milling*	1	\$407.92	10.4	118.5

\* For wage-earners only, in firms of 20 or more employees.

### MINING'S PLACE IN INDUSTRIAL EXPANSION

The annual survey of committed or planned industrial projects in Alberta for 1978 showed the following statistics for mining, and for fabricating plans using material directly from mines (limestone, shale, silica, etc.):

Total projects	21
Capital investment	\$484 million
New jobs created	2,009

To compare these figures with the totals for all industries:

	<u>Mining's Share of Total</u>	<u>Coal Mining's Share of Total Mining</u>
	(per cent)	
Projects	5	48
Capital investment	2	65
New jobs created	15	94

### COAL

1. During 1978 there were 16 coal mining companies in Alberta operating a total of 29 mines. Ten of these are underground mines. Twenty-three of the mines produced over 10,000 tons during the year. Production of metallurgical coal in 1978 showed little change from the 1977 output, but thermal coal production increased by 18 per cent, due mainly to the start-up of the Coal Valley operation of Luscar Sterco (1977) Ltd., which is shipping high-grade thermal (bituminous) coal to Ontario. The production ratio between metallurgical and thermal coal in Alberta has remained approximately 1:1 throughout the 1970s.

2. The Alberta Electric Utility Planning Council has forecast a seven-fold increase in Alberta's electrical energy needs by 2006, with a large increase required as early as 1983. To help supply these expected demands, Calgary Power Ltd. will expand its Highvale mine production to twice its present output and build a new thermal power plant near Keephills, 10 km southeast of the company's present Sundance plant. The combined requirements of the two plants will be about 11 million tonnes of coal annually, providing 2,850 megawatts of power. Recoverable coal at Highvale has been estimated at 550 million tonnes. A second major power development is planned by Alberta Power Limited at Sheerness, 125 miles east of Calgary. Forestburg Collieries Limited and Manalta Coal Ltd. will supply three million tonnes annually to a new plant that is expected to be commissioned by 1986.
3. Since 1974, Alberta has withdrawn large areas of land covering thermal coal deposits. The purpose was to permit government assessment of the coal potential, as well as to study the potential for other land usages. In November 1978, part of these lands were offered to mineral developers on a competitive bidding system. Successful bidders were chosen on the basis of guaranteed exploration commitments over a 15-year period. Approximately 216,000 acres were leased on this basis, with total work commitments of \$1.7 million. Eleven corporations, mainly oil companies, were involved in the sales. Additional sales of this type are planned for 1979, all on lands covering the Ardley seam. This is the major seam at Wabamun, the site of Calgary Power's large thermal energy plant.
4. One of the smaller thermal coal producers, the Star-Key Mines Ltd. located just north of Edmonton, closed down in December 1978. It had been in production since 1945. Its peak production was 86 000 tonnes, but, in recent years, annual production had been 4 500 tonnes. It was one of Canada's oldest continually operated coal mines.

#### MINERAL RESEARCH

The Department of Energy and Natural Resources has recently organized a new division, the Coal Mining Research Centre. It will operate as a private, non-profit company devoted to research in the development of new or improved coal-mining and coal-beneficiation techniques. Funds for the centre are provided from a crude oil export tax under a federal-provincial agreement. The importance of such research is borne out by the size of Alberta's known (semi-proven) coal reserves, about 25 billion tonnes, of which 45 per cent are "theoretically" recoverable. One of the major studies to be pursued by the Centre will involve coal mining and handling techniques that satisfy environmental regulations without undue escalations in costs.

OTHER MINERAL DEVELOPMENTS

Alberta will achieve a North American "first" within the next two years when Gulf Canada Resources Inc. constructs a sulphur prilling tower at the Strachan gas plant near Rocky Mountain House. The spraying of molten sulphur into the top of a 200-foot cooling tower produces hard sulphur beads which can be handled and transported with minimum dust problems. The \$8 million facility will produce 1 000 tonnes per day.

EXPLORATION

Uranium exploration successes in northern Saskatchewan have long encouraged the hope that similar discoveries could be made in northeastern Alberta. About 12,000 square miles in this corner of Alberta are underlain by Precambrian rocks with geological equivalents both to the Athabasca and to the Wollaston Basin uranium deposit settings. While much exploration has been done in the area in recent years, no discoveries have been reported so far.

QUEBEC

The efforts by the Quebec Department of Natural Resources (QDNR) to step up the level of industry activity are making themselves felt. In September, Quebec was the leading province for both surface diamond drilling, with 23 per cent of the Canadian total, and underground drilling, with 29.7 per cent of the total. It has been among the two to three leading provinces during the whole year.

In value of the mineral production in 1978, Quebec was third behind Ontario. Some companies such as Campbell Chibougamau Mines Ltd., remained in operation only because of government financial support.

Principal Mineral Production, 1978 (Preliminary)

<u>Commodity</u>	<u>Value</u> ( '000)	<u>Change</u> 1977-78	<u>Proportion</u> <u>of Canada</u> (per cent)
Asbestos	509,431	22.4	84.6
Iron ore	338,900	0.1	29.4
Stone	183,588	3.8	57.9
Copper	145,515	-13.4	13.4
Cement	117,292	19.6	24.3
Titanium dioxide	110,667	42.2	100.0
Gold	102,515	35.4	27.3
Iron remelt	79,550	0.3	100.0
Zinc	71,916	-7.9	9.1
Sand and gravel	64,398	-7.5	17.1
Silver	14,479	1.6	6.0
Lime	12,525	11.2	16.8
Metals	780,532	-0.2	14.1
Nonmetals	647,025	24.3	41.6
Fuels	-	-	-
Structural materials	394,707	5.9	29.1
Total	1,822,264	8.8	9.2

## Economic Indicators, 1978

		Amount	Change Over Previous Year (per cent)	Proportion of Canada
Population, July 1, 1978	'000	6,287	0.1	26.7
Labour force, Oct., seas. adj.	'000	2,872	1.9	25.8
Employment, Oct., seas. adj.	'000	2,573	2.5	25.2
Unemployment, Oct., seas. adj.	'000	299	(3.0)	32.8
Employed in mining June	'000	21	(15.2)	16.5
Average weekly wages in mining and milling, June	\$	374	7.6	99.5
GPP (1977 preliminary)	\$000,000	50,782	8.9	24.1

## Highlights

1. Miners at the Murdochville operations of Noranda Mines Limited went on legal strike on October 16 because of disagreement over salaries, duration of convention, and "sous-traitance".
2. Noranda Mines has offered to merge with Mattagami Lake Mines Limited and Orchan Mines Limited, two companies in which it already has significant ownership (34.1% of Mattagami Lake Mines and 45.1% of Orchan).
3. Bill 77 was tabled in the National Assembly by Mr. Yves Berube, the Minister of Natural Resources. This bill aims to alleviate financing difficulties for Quebec-based junior exploration companies.
4. Shaft deepening to 2,965 feet has been completed at Agnico-Eagle Mines Limited gold mine in Joutel.
5. Mr. Berube has announced that the head office of the Société nationale de l'amiante would be located at Thetford Mines. A temporary board of directors has been appointed, comprising Mr. A. Jaumie, C. Tremblay and F. Bernatchez of the QDNR, Mr. Michel Labonte of the Dept. of Finance and Mr. M.N. de Tilly of the Executive Council. These people will be replaced at a later date by people drawn from the private sector.



6. Given the slow pace at which negotiations with General Dynamics Corporation on the purchase of Asbestos Corporation Limited are progressing, the Quebec Minister of Finance has tabled legislation allowing the government to acquire certain assets of the company. The bill received first reading on December 15. It will have to be tabled again at the next session of the legislature because it cannot possibly be cleared during the present one.

After the bill was tabled, General Dynamics the parent company, agreed to submit its detailed estimates of the worth of Asbestos Corporation's assets to the government.

7. Société québécoise d'exploration minière (SOQUEM) and the Sullivan Mining Group Ltd. entered into a joint venture to reopen the Quebec Lithium mine, mill and chemical plant near Val d'Or.
8. SOQUEM and Silverstack Mines Ltd. have released official reserve figures of 2,786,672 tons, with a grade 0.186 oz gold per ton, available for open pit mining and 1,569,930 tons, with a grade of 0.157 oz gold per ton, for underground mining at their Bousquet Township property in northwestern Quebec.

## METALLIC MINERALS AND PRODUCTS

### Aluminum

In response to increasing demand, several aluminum companies have increased, or are planning to increase their output.

- . Alcan Aluminium Limited will restart two pot lines at Point Comfort, Texas. This action will add 4 500 tonnes to primary metal production levels.
- . Norsk Hydro Elektrisk Kvaelstofaktieselskat has applied to the Norwegian government for permission to expand airmail capacity at its 100 000 tonne/year smelter at Karmag by 47 000 tonnes of primary aluminum.
- . Aluminium Pechiney is investigating the feasibility of a 200 000 tonne/year aluminum smelter in Hunter Valley, New South Wales, Australia.

In Canada on February 5, 1979, Aluminum Company of Canada, Limited (Alcan) announced that its export price for primary aluminum ingot would be increased to U.S. \$1,300 per tonne (58.97¢ a lb) from \$1,235 per tonne (56.02¢ a lb) c.i.f. major world ports, except Latin America and West Africa where the c.i.f. price is increased to U.S. \$1,335 per tonne from \$1,270 per tonne.

Alcan's export price does not apply in the Canadian or U.S. markets, nor does it apply in those markets where there are prices well established by domestic conditions such as Japan.

Guyana bauxite production has been adversely affected by a strike. The strike action is the first in the Guyanian bauxite industry since nationalization of the sector eight years ago.

### Gold

The gold price increased sharply in the month of February 1979, opening at \$232.40 (U.S.) an ounce on the London Gold Market and reaching a low for the month of \$229.35 (U.S.) an ounce at the afternoon fixing. The high for the month of \$254.00 (U.S.) an ounce was recorded on February 8 and the closing price was \$251.30 (U.S.) an ounce. The Iranian situation and the unsettled United States currency were major factors contributing to the price increase. The monthly average gold price for February 1979 of the afternoon fixing prices on the London Gold Market was \$245.67 (U.S.) (\$293.67 Cdn) an ounce, an all time high, compared with \$227.27 (U.S.) (\$270.41 Cdn) an ounce for January.

On February 23, 1979 the Minister of Supply and Services announced the government's decision to undertake a three-year program for the minting of Canada's first gold bullion coin. The gold bullion coin will contain exactly one ounce of gold and will be known as the "Gold Maple Leaf". It will have legal tender face value of \$50. The obverse will show a picture of Queen Elizabeth II and the reverse a maple leaf. The coin will sell at the market value of gold plus a small premium to cover fabricating and marketing.

Production in the first year will be one million coins and in the following two years two million coins each year. After the three years the government will review the benefits of the program and decide whether to extend it or not. The gold will be supplied by Canadian gold producers with supplements, if necessary, from the official gold reserves held by the Bank of Canada.

The government has decided to give the Royal Canadian Mint responsibility over all aspects of this gold bullion program, both in Canada and abroad.

The International Monetary Fund (IMF) held its thirtieth gold auction on February 7, 1979 under the bid price method and awarded 470,000 fine ounces of gold to successful bidders, at prices ranging from \$252.47 (U.S.) an ounce to \$252.77 (U.S.) an ounce and averaging \$252.53 (U.S.) an ounce. The average price at the twenty-ninth auction was \$219.34 (U.S.) an ounce. The afternoon fixing price on the London Gold Market on February 7 was \$251.60 (U.S.) an ounce. Competitive bids were received for 1,489,600 ounces. Awards were made to five successful bidders out of 19 bidders submitting competitive bids. About 86 per cent of the bids were submitted in the price range of \$249 (U.S.) to \$253 (U.S.) an ounce. The successful bidders were mainly European banks.

In addition 59,200 ounces were awarded to a member country submitting a non-competitive bid at the average auction price of \$252.53 an ounce of gold.

The third of four projected annual sales or restitution of gold to member countries based on individual members' quotas in the Fund as of August 31, 1975 were made at a price equivalent of 35 SDR per ounce of fine gold. Sales totalled 6,076,072 ounces. To date 18,333,045 ounces have been sold directly to member countries out of the 25 million ounces to be sold under the above agreement. Details of the sales are contained in the February 19, 1979 issue of the IMF Survey.

On February 22, 1979 the Treasury Department of the United States held its tenth auction under the new sales program and awarded 1,500,100 troy ounces of gold to successful bidders at an average price of \$252.06 (U.S.) an ounce. Awards of 1,000,000 ounces of high grade gold stock were made at prices ranging from \$251.76 (U.S.) an ounce of gold to \$254.16 (U.S.) an ounce and averaging \$252.38 (U.S.) an ounce. Awards of 500,100 ounces of lower grade gold stock were made at prices ranging from \$250.77 (U.S.) an ounce to \$252.76 (U.S.) an ounce and averaging \$251.42 (U.S.) an ounce. The average gold bid price at the ninth gold auction was \$219.21 (U.S.) an ounce. The afternoon fixing price on the London Gold

market, on February 22 was \$252.35 (U.S.) an ounce of gold. The major purchasers of gold were European banks and bullion dealers but substantial purchases were made by some North American gold dealers. Awards were made to 13 successful bidders, the Dresdner Bank of West Germany being awarded about 65.5 per cent of the total gold auctioned. In all, bids were received for 3.3 million ounces.

### **Iron Ore**

A protocol agreement was signed between United States Steel Corporation of the United States and China for the development of a large iron ore mine, concentrator and pellet plant at Chitashan in northeastern China near the steel production center of Anshan.

Final negotiations for the contract worth over \$1 billion should be completed by mid-1979. The ore grading 30-32 per cent Fe will be mined at a rate of 45-50 million tonnes a year for the production of 3 million tonnes of concentrates and 17 million tonnes of pellets.

Most design and engineering will be prepared by Canadian Met-Chem of Montreal, a subsidiary of U.S. Steel. Several other Canadian companies are also expected to get orders for the supply of mills, pumps, trucks, pan feeders and electronics equipment.

A Chinese delegation visited all major iron ore mining and beneficiation plants in Canada in August 1978 and were very impressed by the size of our operations and the equipment used.

### **Iron and Steel**

The Canadian Institute of Steel Construction (CISC) has announced that structural steel bookings of its members totalled 348 657 tonnes in 1978 an increase of some 45 per cent over 1977. CISC members account for about 85 per cent of structural steel construction in Canada. Activity was stronger in engineering, industrial and commercial projects but down for institutional projects. Export business in the United States was particularly strong.

The Steel Company of Canada Limited (Stelco) of Hamilton, Ontario and The Algoma Steel Corporation, Limited (Algoma) of Sault Ste. Marie have announced price increases on a wide range of steel products to take effect in early March. Average increases will range between 5 and 8 per cent.

Crude steel production in the European Economic Community (EEC) rose to 132.6 million tonnes in 1978, an increase of 5.2 per cent over 1977. The increase was due principally to favourable export markets and implementation of the EEC steel anti-crisis program which established a more orderly market within the community for steel products.

### Lead

A 30 000 tonne per year lead smelter is being considered for South Africa which would ensure that country's self-sufficiency in metal. The South African National Institute for Metallurgy and Gold Fields of South Africa Ltd. have begun a joint feasibility study of an integrated smelter using residues as its major feedstock. The Broken Hill mine of Black Mountain Mineral Development Co. Ltd. is scheduled to be in production by the end of 1979 and would also be a source of supply of lead concentrates for the proposed smelter. Gold Fields has a 49 per cent interest in Black Mountain.

Lead and zinc producers in the United States were taken aback by the decision of the Council on Wage and Price Stability not to exclude the metals from the Carter administration's price deceleration guidelines. The industry had expected to be exempted from the guidelines which are designed to hold increases to 0.5 of one percentage point below the 1976-77 base period. The lead price has already moved from 38 to 44 cents (U.S.) a pound since the beginning of the year and further increases will be difficult to justify.

Gould Inc. one of the largest battery manufacturers in the U.S., purchased the Los Angeles, California and Portland, Oregon secondary smelters of N L Industries, Inc. and at the same time disposed of its Ashland, Pennsylvania plant to Federal Alloys Ltd.

Work on the Potosi, Bolivia lead smelter is to begin in March for completion in 1981. The 24 200 tonnes per year plant will use the Russian smelting and refining process. Cost of the project is estimated at \$155 million (U.S.).

The preliminary production figures for Canada in 1978 indicate that refined lead production reached a new high of 194 054 tonnes, up 3.5 per cent from 1977.

Cyprus Anvil Mining Corporation has signed a two-year contract to supply the U.S.S.R. with about 13 600 tonnes each of lead and zinc concentrates from its Faro, Yukon mine. The first shipments from the port of Skagway in Alaska are scheduled for March.

The London Metal Exchange (LME) spot price continued its show of strength during the month as continuing east European inquiries pushed the price to 50.2 cents (U.S.) a pound at month-end. This was 2.1 cents (U.S.) above the month-opening price. Stocks on the LME increased by 450 tonnes during the month to total 15 800 tonnes on February 23. The producer price in the United States moved up 2 cents to 44 cents a pound early in the month and appears steady at that level. U.S. producer inventories in January declined 20 per cent to 14 353 tonnes and shipments to customers are only averaging two weeks behind schedule, a slight improvement over the situation earlier in the year. The Canadian domestic price also moved up 2 cents early in the month to 50 cents (Cdn.) a pound.

### Mercury

At its February 13, 1979 offering of mercury the United States General Services Administration (GSA) sold 1,000 flasks (76 pounds each) of mercury. The entire amount was sold to Minemet Metals, Inc., a metal trading company in New York, at a price of \$201.06 (U.S.) per flask. This price represents a further strengthening over the prices of \$179.09 and \$168.00 received by GSA at its previous 1,000-flask sales in January 1979 and December 1978, respectively. Each month GSA offers a maximum of 1,000 flasks of mercury for sale from its surplus stocks. These stocks do not require Congressional authorization prior to being sold and are exclusive of the 191,304 flasks of mercury contained in the U.S. strategic stockpile, none of which may be disposed of without Congressional approval.

Early in February, Minemet Metals sold 2,500 flasks of mercury to India at a price reported to be within the "low \$220's" a flask. This spot sale represents a significant quantity in today's market and was in response to two tenders by the state-run Minerals & Metals Trading Corp. of India Ltd. (MMTC), in January. The Indian company also bought about 400 flasks from another United States metal trader. A spokesman for Minemet said MMTC usually comes to the market three or four times a year to buy the metal in bulk for various small consumers because the buyer feels it is more economical to buy in large quantities.

European mercury prices continued their upward trend in February, having risen from a level of about \$173 to \$183 a flask in equivalent \$U.S. at the beginning of January/79 to \$220 to \$230 by the end of February. The rise in European prices resulted mainly from European producers withholding supplies from the market in the hope that prices will continue climbing upward. The opening of the Chinese war with Vietnam on February 17 was also a contributing factor since export shipments of Chinese mercury would likely be delayed. On the other hand the Metals Week New York mercury price remained steady in February at about the U.S. range of \$200 to \$210 a flask.

### Molybdenum

Worldwide demand for molybdenum continues strong with apparent consumption expected to exceed mine supply for the seventh consecutive year. Since the molybdenum supply situation became especially tight in Canada in 1977, the Canadian molybdenum producers in co-operation with the Departments of Energy, Mines and Resources and Industry, Trade and Commerce have been operating a voluntary supply allocation system in order to ensure that the needs of the domestic steel industry were met. Under this system Placer Development Limited's Endako mine supplies about 60 per cent of Canadian needs.

The domestic supply situation became even tighter, when on February 14, the Endako mine was shut down by a strike of its Canadian Association of Industrial, Mechanical and Allied Workers (CAIMAW). CAIMAW represents 500 of the 600 workers at the site. The last two-year contract expired December 31, 1978. The main issue is said to be wages. As of March 5 no talks were taking place and none were scheduled.

A prolonged strike will have a detrimental impact on Canadian steel producers who account for about 90 per cent of Canadian demand, estimated at about 4 million pounds in 1979. Already Atlas Steel has notified its customers that, as a result of its being unable to obtain molybdenum at what it considers a reasonable price, it has suspended the production of steels and alloys containing more than 1.25 per cent molybdenum.

### Nickel

On February 2, Inco Metals Company posted nickel prices for the first time since July 1977. The new prices in U.S. dollars a pound are: \$2.10 for plating nickel (S nickel, rounds, electro 1" x 1" and 2" x 2"); \$2.05 for melting nickel (pellets, electro 4" x 4"), and \$1.96 for charge nickel (NOS 75, Incomet, utility nickel pig and shot). One week later, Société Metallurgique Le Nickel (SLN), AMAX Nickel, Inc. and Falconbridge Nickel Mines Limited announced identical prices for their nickel products.

Producers' nickel stocks dropped an estimated 100 000 tonnes during 1978 mostly due to production cutbacks but the decline was more pronounced because of the prolonged strike at Inco's Sudbury operations. Stocks are still inordinately high and producers must maintain restraints to bring supply and demand back into balance. As it appears that producers intend to do this, we can expect a firming of nickel prices and a more orderly nickel market.

Negotiations between Inco Metals Company and local 6500 (Sudbury) of the United Steelworkers of America broke off again February 9 when the union bargaining committee rejected the company's latest settlement offer for a new agreement. This improved offer and its rejection by the union is a repetition of the negotiating process that has been in progress since the strike started in September.

In Thompson, Manitoba, members of the United Steelworkers of America have voted to accept a new 30-month contract with Inco Limited. The contract provides for wage increases of 35 cents an hour from March 1, 1979, a further 10 cents starting December 1, plus another 10 cents an hour starting November 1, 1980. In addition, 89 cents an hour cost of living benefits accumulated from the previous contract will be rolled into the regular wage rate.

The first shipment of nickel matte from the Agnew project in Western Australia arrived February 12 at the AMAX Nickel, Inc. refinery at Port Nickel, Louisiana. The 400 tonne shipment is the initial delivery under a 10 year contract which provides for the sale of the entire Agnew production up to a maximum 15 000 tonnes of nickel content a year. The

Agnew mine, officially opened in November, has an initial capacity of about 10 000 tonnes of nickel contained in concentrates. The concentrate is toll-smelted into matte by Western Mining Corporation Limited at its Kalgoorlie plant before shipment to Port Nickel.

Two proposed nickel projects in Indonesia have been temporarily shelved because of low world nickel prices. The Japanese Nickel Development Co. has postponed its plans to develop nickel mines on Gebe Island for at least two years. The \$1 billion mining-smelting project of P.T. Pacific Nikkel Indonesia on Gag Island has also been shelved. The project, a joint venture of United States Steel Corporation, Amoco Minerals Company, a subsidiary of Standard Oil Company (Indiana), Koninklijke Hoogovens N.V. of the Netherlands and the Indonesian government was to have started producing about 50 000 tonnes of nickel a year in 1984.

### Platinum Metals

The major Republic of South Africa producers of palladium increased their price to \$100 (U.S.) an ounce from \$85 (U.S.) an ounce. At the same time the producer price of rhodium was increased to \$700 (U.S.) an ounce from \$650 (U.S.) an ounce.

In common with other precious metals the price of platinum increased sharply in February. The opening nearby price on the Mercantile Exchange in New York was \$386.60 (U.S.) an ounce, the low for the month. The high of \$423.20 was recorded on February 7 and the closing price was \$414.60. The unsettled world situation, especially Iran and the U.S.S.R. not offering platinum to the world market were partly responsible for the high price.

### Silver

Spurred by heavy speculative buying on world markets, good consumer business for physical supplies, declining secondary sources of the metal and the drying up of exports from India, silver prices advanced sharply again in February with new all-time highs being established. Another factor contributing to the rise has been the significant and continuing decline of world silver stocks. Combined aggregate silver stocks on the New York Commodity Exchange, Inc. (Comex), Chicago Board of Trade (CBOT) and the London Metal Exchange (LME) declined from about 150,000,000 troy ounces at the beginning of January 1978 to some 129,000,000 ounces at the end of February 1979; of the total drawdown of 21 million ounces that occurred over the 14-month period, a decline of some 12 million ounces occurred only during the first two months of 1979. Other contributing factors are the spectre of rising world-wide inflation, the political crisis in Iran and unsettled conditions in other parts of the Middle East, followed by the February 17 outbreak of war between China and Vietnam, and the further loss of ground of North American currencies in international money markets. Still higher silver prices may be attained in the next few months ahead. The current bullish mood pervades all segments of the silver industry from primary and secondary metal output to its end use.



The New York silver price as quoted by Handy and Harman displayed a sharply increasing trend in February. The \$7.00 (U.S.) a troy ounce barrier was broken February 5 when a price of \$7.140 was obtained. The \$7.50 barrier was broken February 16 when the quotation reached \$7.569. A new all-time high of \$7.925 was recorded on February 22 after which the price softened slightly.

The Canadian silver price, as quoted by The Northern Miner, has closely followed its United States counterpart, with the essential difference being the currency exchange rate. It also rose sharply in February. The \$8.50 (Cdn.) a troy ounce barrier was broken February 5 when a price of \$8.554 was obtained. The \$9.00 barrier was broken February 16 when the quotation was \$9.045. A new all-time high of \$9.480 was reached on February 22 after which the price declined slightly.

In futures trading silver was a commodity that rose to new life-of-contract highs in February on more than one commodity exchange. On several days in February silver futures trading on the New York Commodity Exchange, Inc. (Comex), one of the leading futures markets for silver in the world, reached the daily trading limit of 20¢ an ounce for several different months' delivery. On a few particular days this 20¢ limit occurred right across the board (for all trading months). Record futures highs were posted on February 23 on Comex. On that day April, August and December 1979 contracts traded at highs of \$8.005, \$8.179 and \$8.350 an ounce, respectively. A Comex silver contract is 5,000 ounces.

Effective February 20 the Indian government temporarily banned exports of silver in most of its forms. Certain forms, not as yet known, would be allowed for export through the State Trading Corporation of India. A commerce ministry announcement said the suspension apparently resulted from a desire to take stock of the current situation. India, for many years, has been a major source of secondary silver and significant shipments from that country have helped offset the big and growing deficit between world mine production and consumption. India exported about 724 tonnes (23.3 million ounces) of silver between April 1, 1978 and February 20, 1979, compared with exports of 645 tonnes (20.7 million ounces) in the fiscal year ended March 31, 1978.

In December 1978, Placer Development Limited reported that it had purchased from Kennecott Copper Corporation of New York (for \$5.1 million) the 30 per cent net profit interest that the latter company had in the Sam Goosly copper-silver-gold-antimony property of Equity Mining Corporation. Under a new agreement with Equity, Placer will acquire a 70 per cent interest in a new company which will be formed to own the property. In exchange, Placer will surrender the net profit interest and pay Equity \$2.3 million. The remaining 30 per cent of the new company will be owned by the shareholders of Equity and Congdon and Carey Company of Denver, Colorado. The Sam Goosly property is 65 kilometres south of Smithers, British Columbia and Placer's preliminary estimate of its mineable reserves is 19 million tonnes grading 0.44 per cent copper and 125 grams of silver and 1.10 grams of gold a tonne. Some of this ore might be mineable by open-pit methods. After a feasibility study is completed early in 1979 Placer will decide on when and if the property is to be brought into production. Production at a rate of 3 000 to 4 500 tonnes of ore a day was considered in past studies of the project. Placer would be responsible for financing, construction and operation of the project.

One of the major problems to be solved at this property is metallurgical since the ore that would be produced would be complex and contain quantities of deleterious elements including especially arsenic and mercury.

With such a competent and amply financed company as Placer now having a controlling interest in the Goosly property, the chances of it being brought into production are enhanced. Higher silver and gold prices as well as the improving markets and prices for copper are bullish factors in helping the new owners to make a production decision. Estimated capital cost of developing the property is \$70 million. At a rate of production between 3 000 and 4 500 tonnes of ore (grading 125 grams of silver a tonne) a day, and milling 365 days a year, the silver content of the concentrates produced could vary between 93 300 kilograms (3.0 million ounces) and 186 600 kilograms (6.0 million ounces) a year, depending on the percentage of silver recovered.

### **Silicon**

The United States Trade Commission has ruled that silicon entering from Canada did not injure or threaten to injure the U.S. silicon industry. This decision is regardless of the fact that the U.S. Treasury Department had determined earlier that Canadian silicon was being sold at marginally less than fair value in the U.S. market. This brings to an end the year-long investigation that was initiated when four U.S. silicon producers claimed that S.K.W. Electro-Metallurgy Canada Ltd. was dumping silicon into the U.S. Silicon metal is used as a hardening agent in aluminum and steel production.

### **Tin**

In the United States, the 96th Congressional Session is considering the disposal of up to 35,000  $\ell$  tons of tin (of which 5,000  $\ell$  tons would represent a contribution to the International Tin buffer stock). Current tin stockpiles of 200,480  $\ell$  tons are 167,930  $\ell$  tons in excess of national security needs.

The Armed Services Committee is scheduled to vote on the disposal bill and will also consider a broader stockpile policy bill.

### **Tungsten**

The United States government has decided to expand the list of commodities in its Generalized System of Preference (GSP) to include among others, tungsten ores, concentrates and ferrotungsten. As a result, developing countries such as Bolivia, Brazil and Korea will have unfettered access to the U.S. market. On the other hand, this decision will have a detrimental effect on Canada's single producer of tungsten, Canada Tungsten Mining Corporation Limited. In addition, it may adversely affect a decision to develop the large Mactung deposit in the Yukon Territory.

## **INDUSTRIAL MINERALS AND PRODUCTS**

### **Asbestos**

In the United States, several states introduced initiatives affecting asbestos. In Virginia, asbestos was nominated a Class I substance pursuant to the state's Toxic Substances Information Act. These substances are considered to pose the greatest threat to human health and the environment. Users of Category I materials are required to file a special report to ensure that appropriate government and company officials are aware of the character of a potentially hazardous substance, its emissions and health effects as well as any detoxification procedures.

In Connecticut, as part of a revision to its State Implementation Plan to comply with U.S. Clean Air Amendments of 1977, the Connecticut Department of Environmental Protection has proposed a numerical ambient air quality standard that will be quantitatively specific, as opposed to the federal EPA standard (i.e. "... no visible emissions ...") considered to be too general. In Kentucky, the Bureau of Environmental Protection is amending its regulations on asbestos to reflect changes in the federal EPA National Emissions Standards for Hazardous Air Pollutants (NESHAPS). The proposals, if adopted, would give Kentucky an air quality standard for asbestos virtually identical to NESHAPS.

Although these proposals could well lead to stricter legislation controlling the use of asbestos, with resultant increased emphasis being placed on the use of substitutes, the general trend in the U.S. appears to be one of increased regulation of health-environmental conditions, with some emphasis on economic impact analyses, rather than to the outright banning of asbestos.

## **MINERAL FUELS AND PRODUCTS**

### **Coal**

Mexico recently expressed interest in buying Canadian coal as part of a long term trade agreement. Representatives from Canada's Department of Energy, Mines and Resources and Industry, Trade and Commerce recently visited Mexico to discuss the possible export of up to one million tonnes of Canadian coking coal for use by Mexico's domestic steel industry. The coal, which could come from both eastern and western Canadian coal producers, is required to bridge a shortage that will be eliminated when Mexican coking coal production expands in the mid-1980s.

The Energy Resources Conservation Board recommended approval of Alberta Power Ltd.'s proposed Sheerness thermal generating station. The 750 megawatt power plant, along with an expanded and new coal mine, will be located northeast of Calgary. Construction of the \$750 million facility will begin in 1981 upon receipt of provincial Cabinet approval. Approximately 100 million tonnes of subbituminous coal will be consumed over the 30-year life of the plant. Burn tests of coal will begin shortly with detailed engineering work expected to begin in 1979 and first power produced in 1985.

### Petroleum and Natural Gas

Dome Petroleum Limited has recently announced their proposed exploration program in the Beaufort Sea for the 1979 drilling season. The Kopanoar and Ukalerk wells will be re-entered and tested as both encountered substantial thicknesses of oil and gas bearing sandstones during the 1978 drilling season. Three other wells which were started in 1978 will be re-entered and drilled to completion and initial drilling will commence on four more new wells. The company recently announced the purchase of another drillship in Singapore, which will be outfitted for Arctic conditions and a new \$30 million class 4 icebreaker AML X4 is now being completed in a New Brunswick shipyard and will join the fleet in early fall. The Canmar fleet now consists of four drillships, seven support ships, a bulk carrier, and an icebreaker - a total investment of over \$300 million.

Petro-Canada Exploration Inc. has taken over the work of Total Eastcan Exploration Ltd. as operator of companies which are exploring for oil and natural gas off the Newfoundland coast. Petro-Canada will join Gulf Canada Limited, AGIP Exploration, Sun Oil Company Limited, Aquitaine Company of Canada Ltd. in financing this year's drilling program. Total Eastcan will continue to operate the exploration program in 1979 under the guidance of a special committee made up of the five partners. Petro-Canada will become primary operator in 1980, leaving Eastcan in a minor role.

Offshore on the Scotian Shelf, exploration by the team of Mobil Oil Canada, Ltd., Petro-Canada and Kaiser Resources Ltd. will end when the current well, Venture E 23, is completed in early April 1979. The Venture is the fifth well in a program which started in 1977 under which Petro-Canada and Kaiser Resources have earned 40 per cent interest in a 640,000 acre block held by Mobil and Tetco and 40 per cent interest in part of a block of land east of Sable Island covering 464,000 acres held jointly by Mobil, Texaco and Tetco.

## Uranium

Uranium Canada, Limited (UCAN) has announced the signing of an agreement with Ontario Hydro granting Hydro the right to borrow in 1979 up to 800 tonnes uranium from the federal government's uranium stockpile. The uranium is to be repaid in kind; up to 300 tonnes U by December 31, 1983 and up to 500 tonnes U by December 31, 1984. Assuming all 800 tonnes are borrowed from the stockpile for the full contract period, the total borrowing cost to Hydro will be about \$50 million. This represents the third loan agreement from the stockpile for a total of 1 685 tonnes U, leaving an uncommitted balance in the stockpile of 3 875 tonnes U.

A new company, Key Lake Mining Corporation, has been formed to develop the Key Lake uranium deposits in northern Saskatchewan. Shareholders in the company will be Saskatchewan Mining Development Corporation (one half), Uranerz Exploration and Mining Limited (one third) and Eldor Resources Limited (one sixth); the latter is a wholly owned subsidiary of Eldorado Nuclear Limited.

The Minister of the Environment has approved a proposal by Eldorado Nuclear Limited for the construction of a new uranium refinery, to be built near Port Hope, Sudbury or Blind River, Ontario. The decision was made following receipt of recommendations from a federal environmental assessment panel that all three locations would be acceptable provided certain safety conditions were met. Approval must now come from the Minister of Energy, Mines and Resources.

Maintenance and Production workers at Denison Mines Limited and Rio Algom Limited have accepted a 35 month contract that will increase their base pay from \$6.12 to \$9.62 per hour by September 1981, making them one of the highest paid industry groups in Canada.

The Government of Australia has given approval for companies that have received clearance to develop uranium deposits, to negotiate uranium sales contracts with prospective customers. Deliveries will be conditional, however, on appropriate safeguards agreements being concluded between Australia and the governments of customer countries.

### NEW PUBLICATIONS

The following publications were prepared in the Mineral Policy Sector and the Energy Policy Sector, Department of Energy, Mines and Resources and released for distribution in February.

Preprints, **Canadian Minerals Yearbook, 1977**, Bismuth; Molybdenum; Potash; Phosphate; Sand and Gravel; price 50¢ a copy.

Pretirages 1977, La chaux; Le ciment; Le sulfate de sodium; prix 50¢ une copie.

The above publications are available from the Publishing Center, Department of Supply and Services, Ottawa.



